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Synthesis and Application of Silicon Dioxide Nanoparticles

Guest Editor:

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Deadline for manuscript submissions:
closed (20 November 2023)

Message from the Guest Editor

Recently, silica-based nanomaterials have been attracted great interest in both fundamental and applied research. They can be produced in a variety of sizes, pores and shapes. Depending of the synthesis strategies and functionalization methods, their surface properties can be easily adjusted for several purposes.

This Special Issue is seeking contributions in the form of communications, research articles and reviews, in order to provide an update on current knowledge of the fundamentals, theory and computational methods, new applications and perspectives related to silica nanoparticles. Thus, the scope of this Special Issue will include, but is not limited, to the following topics: synthesis and functionalization; mechanochemical synthesis and surface modification; meso- and macro-porous silicas; hierarchically porous silica materials; characterization from thermal analysis, X-ray, infrared spectroscopy, scanning and transmission electron microscopy; catalysis and adsorption; applications of silica nanoparticles to biotechnology, chemicals and pharmaceutics, biomedicine, petroleum and the petrochemical industry, gas capture and storage, and environmental processes.

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Editor-in-Chief

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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